

420 Mulberry Lane
Bellaire, Texas 77401
October 31, 1978

Lee H. Mathews, Chief Hearings Examiner
Texas Water Commission
Austin, Texas 78711

Dear Mr. Mathews:

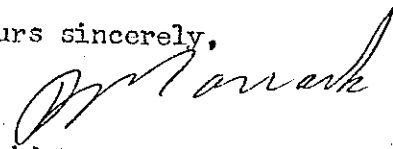
In the hurry at the end of the afternoon's session of your hearing on the matter of McGinnes Application #01221 for permit amendment for the Texas Dept. of Water Resources, I believe some expansion of my comments, which are attached, might be helpful to you in your prudent assessment of the facts pertaining to the potential long term impact of this project.

I am sure you recognize the virtual irreversibility of any adverse impact on water quality and productivity of these wetlands from the project, however it might occur. Wetlands are an essential component in the dynamics and sustained yield productivity of our bays and coastal waters ecosystems by virtue of their role as "nursery areas" to some 70% of the commercial and game fin and shellfish, or to essential components of their food chains (Marine Fisheries Review '77). Wetlands represent an increasingly valuable part of our state's sustainable longterm economy and natural resource.

It behoves all, and particularly the TDWR to require the utmost diligence and care in obtaining accurate and complete data on these and any other wetlands and any projects that might, even in a remote way, impact the wetlands through water quality degradation in order to evaluate them and protect the States and public's interest in retaining this sustainable natural resource.

It was a pleasure to participate in your proceedings reviewing these complex matters and possible future impacts of this project on our waters and wetlands.

Yours sincerely,


David Marrack, M.D.

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COMMENTS FOR THE RECORD OF PUBLIC HEARING FOR
PERMIT AMENDMENT 01221 (McGINNES), T.D. OF W.R.

OCTOBER 31, 1978

The great differences in sensitivity between classes of animals to chemicals added to their environment i.e. fishes to pH and/or divalent ions (commonly calcium) and fish and aquatic crustacea to chlorinated hydrocarbons (commonly this type of pesticide) when compared with mammals must be recognized and toxicity testing must, to be appropriate, use the local species from several families.

In addition, to be relevant, the toxicity testing must include several sequential reproductive cycles for species and also recognize and include the fact that chemicals can be "activated", or converted, to toxic forms by bacteria or other organisms (i.e. mercury trapped in bay bottom muds being mobilized into the food chain of fishes and crabs).

The generally enhanced sensitivity of juveniles compared with adults of a species, to an adverse impact from exposure to chemicals is probably most widely recognized from the use of Thalidomide in pregnant women with disastrous consequences to fetuses and the communities they were born into.

The sensitivity difference of different life forms to toxic chemicals means that varied bacterial populations in a liquid waste treatment plant may not be significantly affected by a chemical, or chemicals, in an input stream which have marked adverse impact on the species found in a wetland ecosystem.

The traditional use of rats in toxicological studies arose mainly from their availability and the durability of their physiology under the vagaries of janitorial care. The reciprocal of this is that they are often not sensitive indicators of adverse impacts of agents on other species.

The bioconcentration of a chemical that can occur in food chains, when it is not excreted or metabolized significantly by the species in the chain, is important and applies to some heavy metals and various types of pesticides. The avifauna of wetlands, because they are usually the "end" of a food chain, are especially susceptible to the introduction of "small" amounts of toxic chemicals into the wetland environment. The extinction of the Brown Pelican along the Upper Texas Coast over a few years, some 20 years ago testifies to this.

Currently there are several important nesting colonies of "fish-eating" birds on spoil banks in West Galveston Bay: North Deer Island not far from this project site being one of the largest of these.

The mobility of birds make them difficult to use as in-the-field monitors of adverse impacts from pollutants. In any case, such observations would be an "after-the-event" information and not a protection against environmental degradation.

The Peregrine Falcon, an endangered species, makes the Upper Gulf Coast one of its' autumn and winter habitats with significant numbers visiting the area. Their diet of most birds exposes them to significant concentrations of any toxic chemicals which enter the wetland ecosystem and are passed up their food chain.

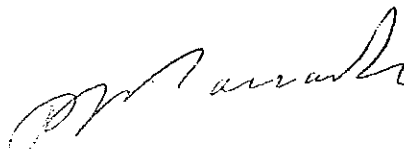
This mobility of birds makes the observation that birds visit the McGinnes sludge dump site of no significance because their subsequent life history and breeding potential are unknown.

The fish observed in ponds on the sludge pits raise interesting questions of how they got there. Their survival tells us little about sludge toxicity to fish as they are presumably in rainwater collections, whose water usually seeps downwards under gravitational field carrying leachate away from their environment.

For the above reasons, I consider the chemical toxicity analyses and assessments now required by E.P.A. and others and reported in today's hearing, when applied to this specific project, as totally inadequate.

The potential for unexpected, and by the presently used methods, undetected toxic chemicals to enter the G.C.W.D. plant from the several petrochemical industries it serves, is real. I submit that, as in other fields, the Best Available Technology must be required for assessing this type of project if T.D.W.R. is to effectively protect the waters about the McGinnes sludge dump site from significant future degradation, if such degradation is not already occurring. Protection from degradation of the state's water resources is the proposed policy of our T.D.W.R. and one of the reasons for having a permit system for solid waste disposal.

I submit that a much more thorough and indepth study is required before a permit to extend and continue the disposal of G.C.W.D. sludge at the McGinnes site, surrounded by a very valuable prime but fragile Wetland ecosystem, can be considered by an informed and prudent person. In the absence of additional proper and adequate data being submitted, this permit must be denied.



D. Marrack, M.B., B.S., M.D., F.C.P.